REMARKS

Entry of the foregoing, reexamination and reconsideration of the application identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.112, and in light of the remarks which follow, are respectfully requested.

Claim 16 has been amended to remove the word added by the last amendment. Claims 1-10 and 12-41 remain pending in this application. Claims 19-39 stand withdrawn from consideration and have not been given an action on the merits.

Applicants note the Examiner's comments regarding the Information Disclosure Statements filed November 29, 2000, and June 20, 2001. The documents listed on the PTO-1449 form filed November 29, 2000, were compiled from search reports issued by the German Patent Office in the German applications for which a priority claim under 35 U.S.C. §119 has been made. The documents listed on the PTO-1449 form filed June 20, 2001, were compiled from International Search Reports issued in PCT applications which were counterparts of the German applications for which a priority claim under 35 U.S.C. §119 has been made.

According to Section 609, M.P.E.P.: "The term counterpart foreign patent application means that a claim for priority has been made in either the U.S. application or a foreign application based on the other . . ." (page 600-128, August 2001). Since the International Search Reports were issued in PCT applications corresponding to the same German applications upon which a priority claim has been made in the present application, applicants believe the PCT applications are "foreign counterparts." Accordingly, it is

requested that all documents listed on the PTO-1449 forms attached to the Office Action be considered.

Applicants also note that JP 11-268159 and EP 08246358 listed on the PTO-1449 form filed June 20, 2001, were neither initialed nor crossed-out. It is unclear if these documents were considered. Applicants also acknowledge with appreciation the Examiner's statement that the copending applications listed in the IDS filed October 8, 2002, were considered.

Claims 10, 16, 40 and 41 were rejected under 35 U.S.C. §112, second paragraph, for reasons set forth in paragraphs (10) and (11) of the Office Action. Reconsideration and withdrawal of this rejection is requested in view of the above amendment and the remarks which follow.

The legal standard for determining compliance with the second paragraph of 35 U.S.C. §112 is whether the claims reasonably apprise those of ordinary skill in the art of their scope. See In re Warmerdam, 33 F.3d 1354, 1361, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). In determining whether this standard is met, the definiteness of the language employed in the claim must be analyzed, not in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art. In re Johnson, 558 F.2d 1008, 1015, 194 USPQ 187, 193 (CCPA 1977).

Claim 1 specifies that the synthetic fibers are heat shrunken. Claim 1 does not mention consolidation of the non-woven layer of synthetic fibers. Claim 10 specifies that the synthetic non-wovens are not consolidated prior to needling (i.e., needling together the

glass fiber layer and non-woven layer). The Examiner stated in paragraph (8) of the Office Action mailed June 21, 2002, that the term thermally shrunken "functions at least in part to consolidate the fibers."

Applicants disagree with this statement. Those of ordinary skill in this art are well aware that techniques exist to thermally shrink fibers which do not result in consolidation, i.e., compaction of the web. Techniques for thermally shrinking fibers are also known which result in consolidation. Various known techniques for heat-shrinking in accordance with the invention are discussed on page 11 of the specification. Those of ordinary skill would clearly comprehend the scope of claim 1 and the scope of claim 10.

Claim 16 has been amended to delete the word "additional." In paragraph (10) of the Office Action, the Examiner states that claim 16 "will be interpreted to mean any reinforcements, which may be the same, or different from those recited in claim 1." Claim 1 does not contain the word "reinforcement." Accordingly, applicants are unsure what reinforcement the Examiner is referring to. Claim 16 is directed to the optional feature discussed on page 10, lines 8-20. Those of ordinary skill in this art would readily understand the scope of claim 16.

For the above reasons, the §112, second paragraph, rejection of claims 10, 16, 40 and 41 should be withdrawn. Such action is respectfully requested.

Claims 1-10, 14-16, 18, 40 and 41 were rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent 6,235,657 to Schops et al in view of U.S. Patent 5,229,184 to Campbell et al and further in view of U.S. Patent 5,171,629 to Heidel et al for the reasons expressed in paragraph (13) of the Office Action. The rejection presumably

includes claims 12 and 13 which are discussed on pages 7-8 of the Action. Reconsideration of this rejection is respectfully requested for at least the following reasons.

The presently claimed invention includes, inter alia, at least one non-woven mat containing glass staple fibers. The laminated articles disclosed in Schops '657 include "a laid structure" of reinforcing yarns which may be composed of glass fibers. The Office Action refers to "at least one reinforcing layer" disposed between synthetic layers. However, the Office Action does not indicate the glass fiber layer of Schops '657 is a non-woven mat. Accordingly, it is unclear from the rejection what the Examiner is relying upon for a disclosure of a non-woven mat containing staple glass fibers.

Aside from the fact that Schops '657 does not mention non-woven glass fiber mats, the reference does not mention two other specified features of the present claims: heat shrinkage of the synthetic fibers and pre-consolidation of the non-woven glass fiber mat. Both these features are important to attaining the advantages of the invention including excellent mechanical strength and flexibility, high resistance to delamination, improved dimensional stability, etc.

Moreover, the presently claimed laminates are not subjected to final consolidation with a binder. Unexpectedly, laminates of the invention exhibited greater strength and lower blistering and delamination in comparison to a laminate with similar layers which was subjected to a final binder consolidation. This is clearly evident from the data in Example 3, page 20.

Campbell '184 has been relied upon in the rejection for its disclosure of heat shrinking fibers. The process of Campbell '184 includes the required steps of constraining

the fibers, heating the fibers, cooling the fibers and removing the constraints. The Examiner argues that it would have been obvious in view of Campbell '184 to heat shrink the synthetic fibers of Schops '657. Applicants respectfully disagree.

In Schops '657, dimensional stability is provided at least in part by using laid reinforcing structures preferably composed of glass fibers. While Campbell '184 discloses processes for heating shrinking fibers, applicants do not see any suggestion therein which would motivate those of ordinary skill to heat shrink the synthetic fibers used in Schops '657. Applicants have observed that the so-called "banana curving" effect on dimensional stability can be virtually eliminated by the present invention which includes heat shrinking the synthetic fibers. This unexpected result is not disclosed or suggested by the combined teachings of Schops '657 and Campbell '184.

Heidel '629 is relied on in the rejection for disclosing pre-consolidating glass fiber mats. The invention in Heidel '629 relates to the use of low-formaldehyde melamine resins to end consolidate a laminate composed of a non-woven glass fiber mat and a mat of synthetic fibers. The glass fiber mat optionally may be pre-consolidated according to column 2, lines 13-16 and column 3, line 51 ("preconsolidated if appropriate"). What this reference teaches those of ordinary skill in the art is that pre-consolidation is optional but final consolidation using a particular resin binder is necessary to achieve the objectives of Heidel '629. Accordingly, combining the disclosures of Schops '657 and Heidel '629 would suggest to those skilled in the art that pre-consolidation of the glass fiber mat in Schops '657 is optional with no specified advantages but that final consolidation with melamine resin is necessary.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The motivation to modify the relied on prior art must flow from some teaching in the art that suggests the desirability or incentive to make the modification needed to arrive at the claimed invention. In re Napier, 55 F.2d 610, 613; 34 U.S.P.Q.2d 1782, 1784 (Fed. Cir. 1995). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the claimed combination. In re Geiger, 815 F.2d 686, 688; 2 U.S.P.Q.2d 1276, 1278 (Fed. Cir. 1987). As stated in In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1316-17 (Fed. Cir. 2000),

> [m]ost if not all inventions arise from a combination of old elements. Thus, every element of a claimed invention may often be found in the prior art. However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant [citations omitted].

In summary of the above arguments: (1) Schops '657 does not mention a non-woven glass fiber mat, nor the use of heat shrunken fibers, nor pre-consolidation of the laid glass

fiber reinforcement; (2) Campbell '184 does not disclose or suggest that heat shrinking synthetic fibers would impart dimensional stability to laminates composed of non-woven glass fiber mats and non-woven synthetic fiber mats; (3) Heidel '629 teaches that pre-consolidation of non-woven glass fiber layers is an optional feature and final consolidation with melamine-formaldehyde resin is a necessary feature. Applicants respectfully submit that there is no motivation, suggestion or teaching in the combined disclosures of these three references of the desirability of making the specific laminates that are claimed herein.

Based on the above remarks, the §103(a) rejection over Schops '657 in view of Campbell '184 and further in view of Heidel '629 should be withdrawn. Such action is earnestly solicited.

Claim 17 stands rejected under 35 U.S.C. §103(a) as unpatentable over Schops '657 in view of Campbell '184, and further in view of Heidel '629 as applied above, and further in view of U.S. Patent 4,892,780 to Cochran et al for reasons expressed in paragraph (14) of the Office Action. Reconsideration and withdrawal of this rejection is requested to at least the following reasons.

Cochran '780 is relied upon in the rejection for its disclosure of the use of E-glass fibers in Example 15. The alleged motivation is to produce a composite having strength and electrical properties. Applicants respectfully disagree with this position.

E-glass is used in Example 15 of Cochran '780 to prepare a knitted glass fiber fabric. The laid glass fiber assemblies of Schops '657 are not described as knitted fabrics. Applicants can find no teaching in Cochran '780 that the use of fibers made from E-glass in non-woven webs would impart strength and electrical properties to the webs. There is

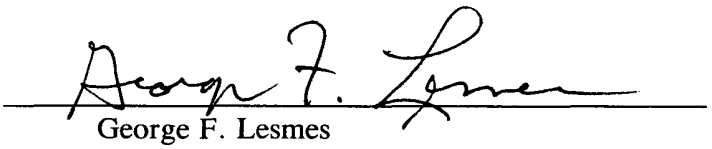
nothing in Cochran '780 that would motivate those of ordinary skill to use fibers made from E-glass in the laid glass assemblies of Schops '657. As such, Cochran '780 provides no cure for the deficiencies of the basic combination of references as discussed above.

Accordingly, the §103(a) rejection of claim 17 should be withdrawn.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned at (703) 838-6683 at her earliest convenience.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: 

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Date: February 25, 2003

Attachment to AMENDMENT dated

Marked-up Claim 16

Please replace claim 16 as follows:

16. (Twice Amended) The laminate according to Claim 1, wherein the laminate includes [additional] reinforcement.